

Precalc Warm Up # 6-5

1. Find to 4 dec. places: $\csc(50^\circ 15' 25'')$
2. Find x to the nearest 10th of a second and to nearest 10th of a radian. $\sec x = 10$
3. Find x if $\cos x = 10$
4. If $\sec x = 1.5$ and x is an acute angle, find $\cot x$ to 3 decimal places.

HW Questions: WS

Describe transformations...

1. $y = 3 \sin(x - \frac{\pi}{6})$

2. $y = 2 + \cos(2x + \frac{\pi}{2})$

3. $y = -5 \cos x + 7$

4. $y = -3 + \frac{1}{2} \sin(6\pi - 2x)$

$$-3 + \frac{1}{2} \sin[-2(x - 3\pi)]$$

$\text{Per} = \pi$ r_y , $R + 3\pi$, down 3
 $\text{Amp} = \frac{1}{2}$

$$5. y = 6 + \tan\left(x - \frac{\pi}{4}\right)$$

$$6. y = -\tan x$$

$$7. y = 1 + \sin(\pi x - 3\pi)$$

$$8. y = -2 + \sin\left(\frac{\pi}{2} - x\right)$$

Graph:

$$9. y = 3\sin x - 1$$

$$10. y = -\tan x$$

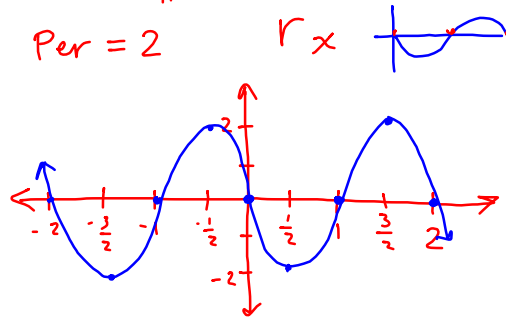
$$11. y = 3 - \cos\left(x + \frac{\pi}{4}\right)$$

12. $y = 1 + \sin(x + \pi)$

13. $y = -2 \sin(\pi x) \rightarrow \text{Per} = \frac{2\pi}{\pi} \quad \text{Amp} = 2$

14. $y = 3 \cos(-2x)$

$\text{Per} = \frac{2\pi}{2}$
 $\text{Per} = \pi$



Summary of $y = \tan x$

$$y = \frac{\sin x}{\cos x}$$

Domain: $x \neq \frac{\pi}{2} + \pi n$

Range: \mathbb{R}

x-intercepts: where $\sin x = 0$

@ $x = \pi n$

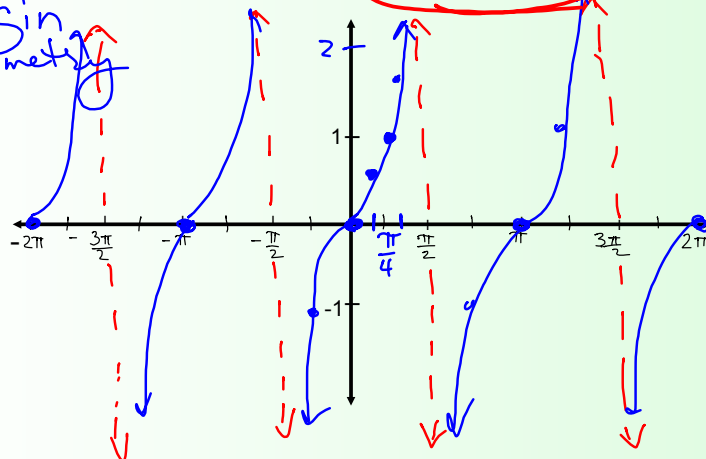
Symmetry:

Origin
Symmetry

Asymptotes: where $\cos x = 0$

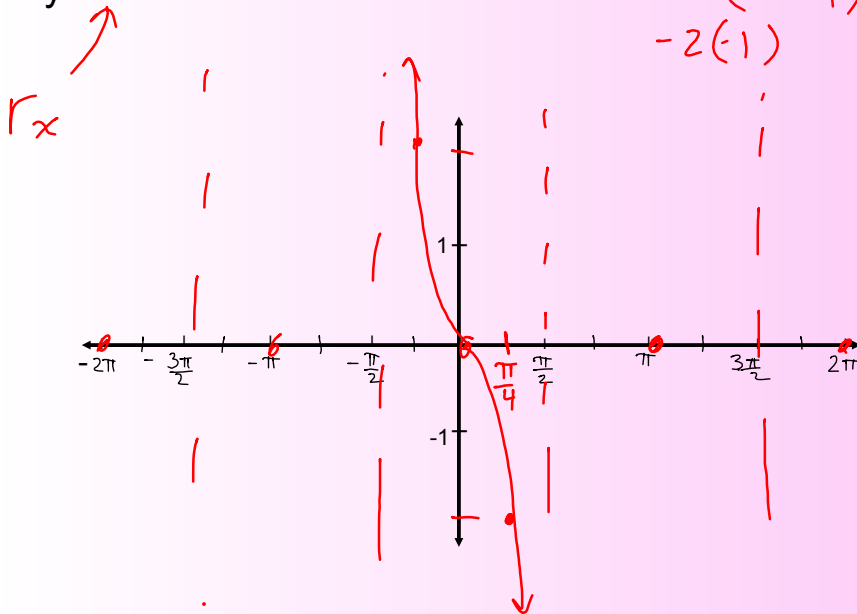
Let $n = \text{integer}$ @ $x = \frac{\pi}{2} + \pi n$

Period: π

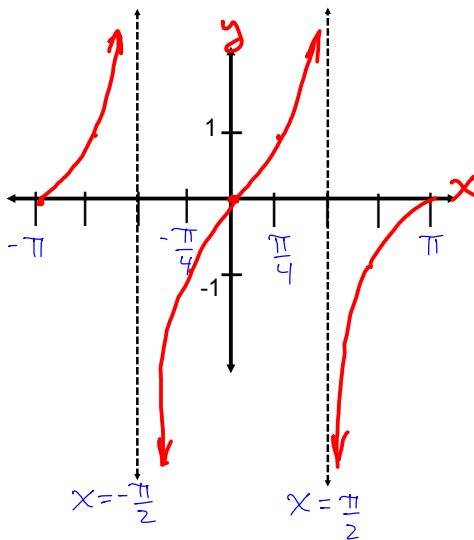


Graph two cycles:

$$y = -2 \tan x$$

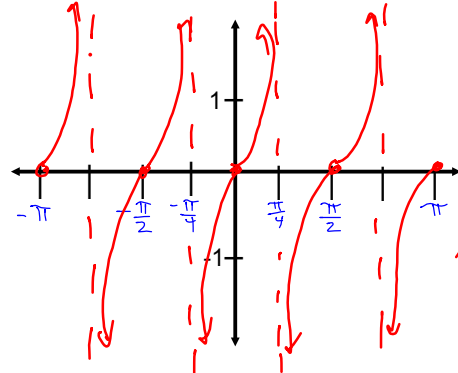


$$y = \tan x$$



How does this graph compare?

$$y = \tan 2x$$



per: $\frac{\pi}{2}$

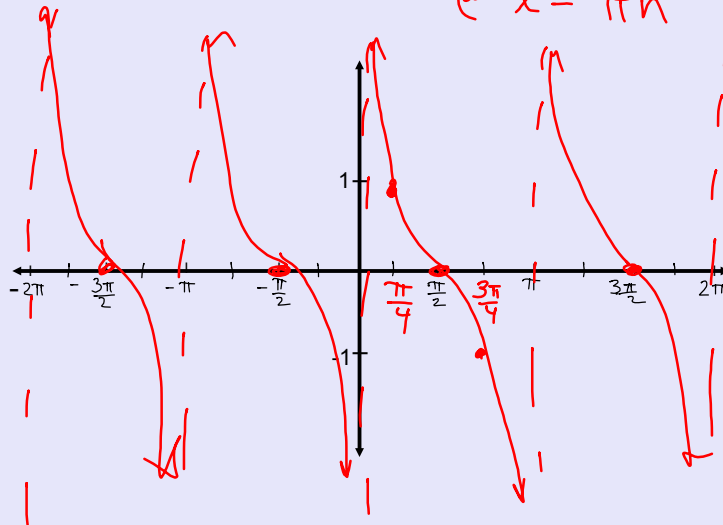
dom: $x \neq \frac{\pi}{4} + \frac{\pi}{2}n$

range: \mathbb{R}

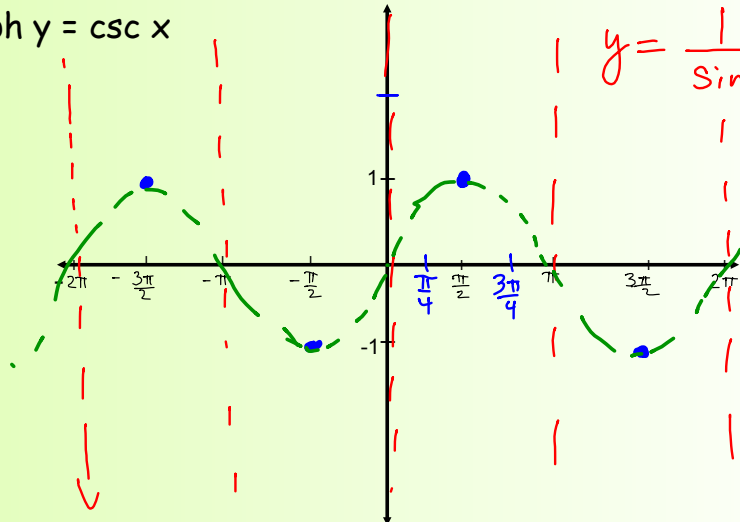
Graph $y = \cot x$

$$\text{Per} = \frac{\pi}{|b|}$$

$$y = \frac{\cos x}{\sin x}$$

Period: π Asymptotes: when $\sin x = 0$
@ $x = \pi n$ Graph $y = \csc x$

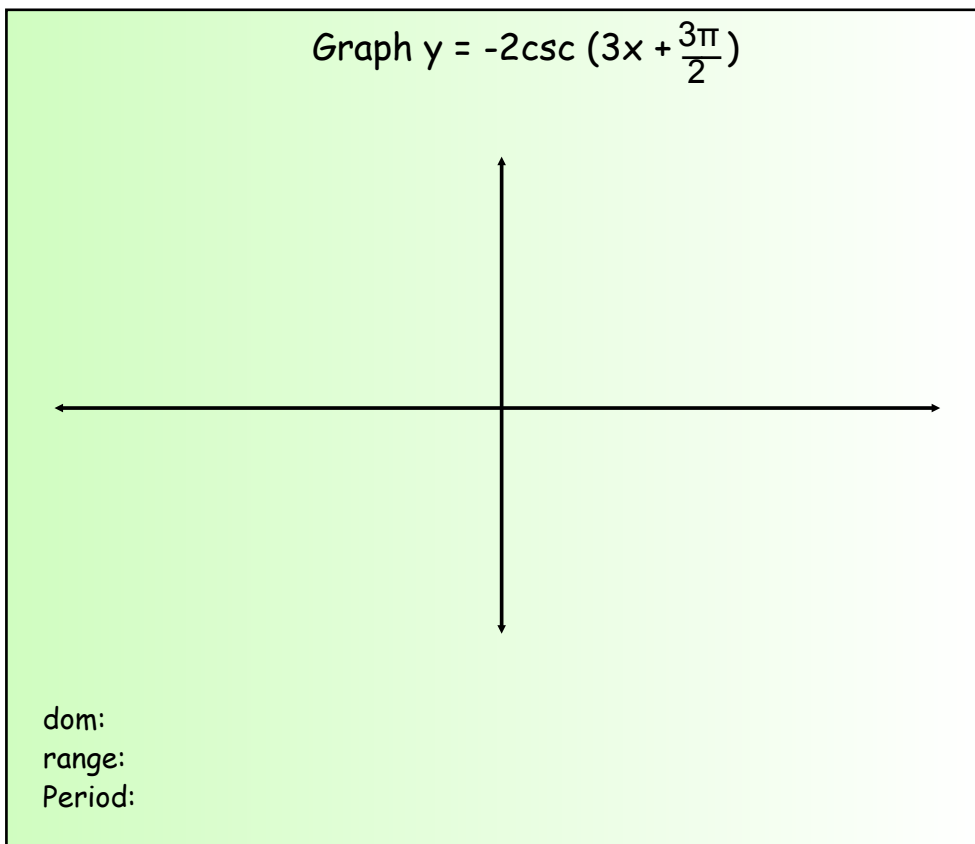
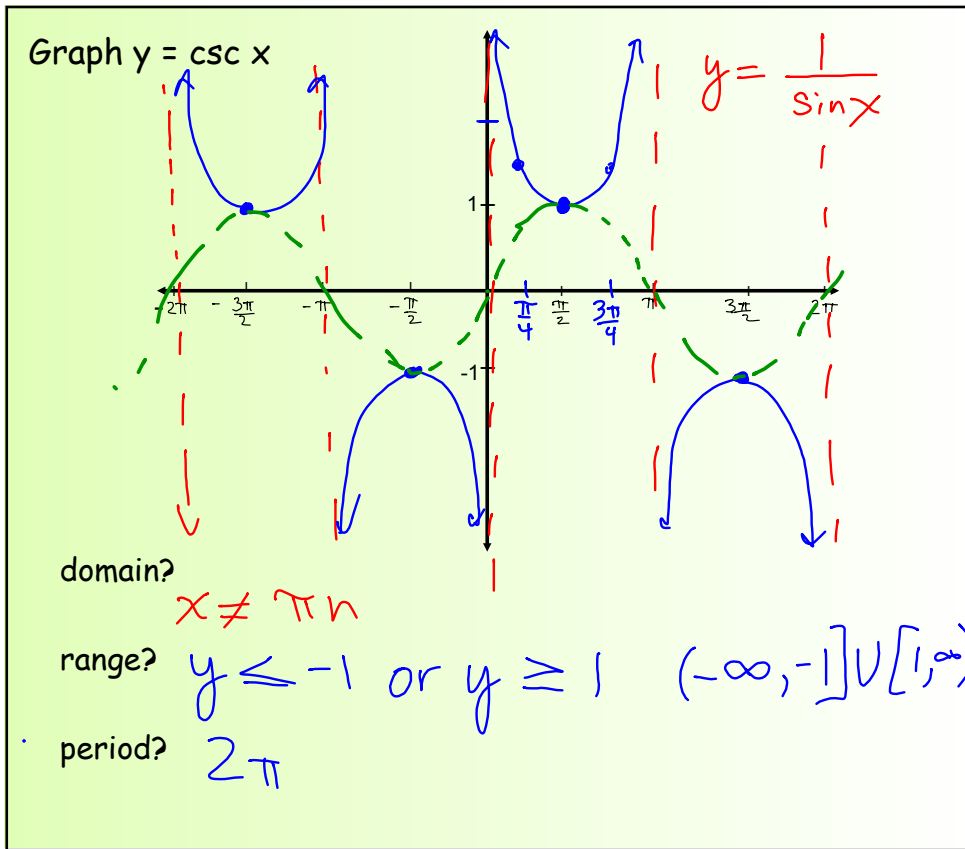
$$y = \frac{1}{\sin x}$$

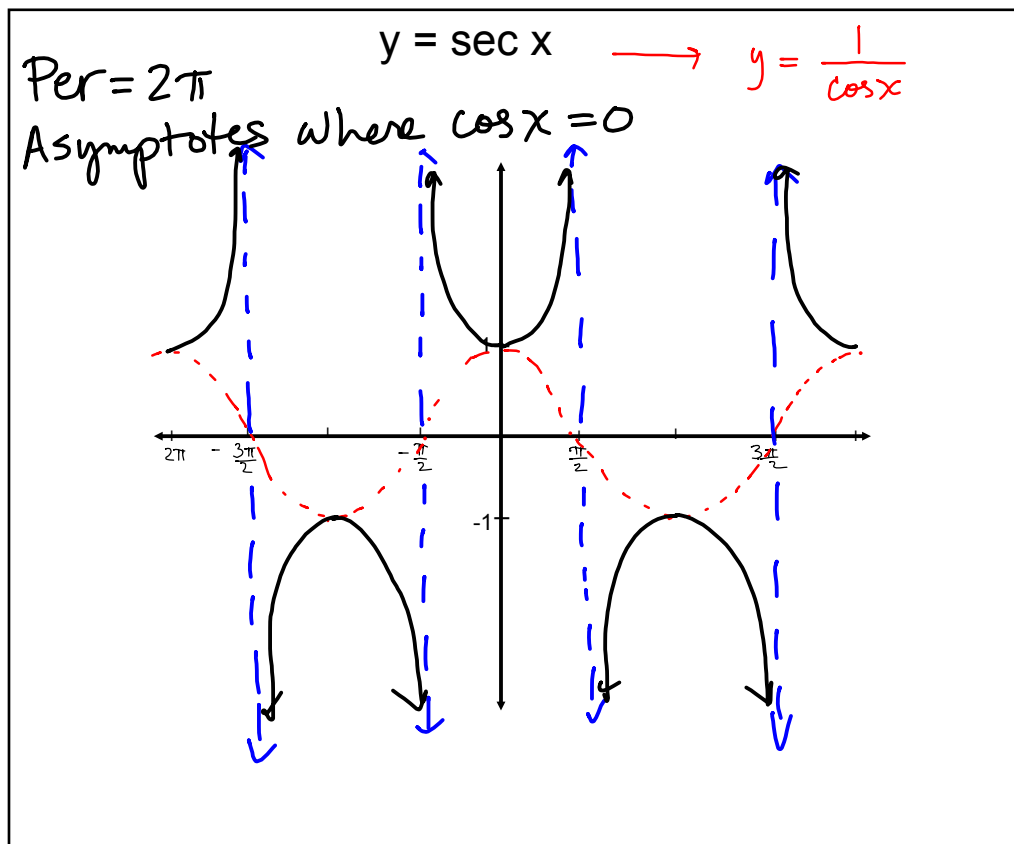
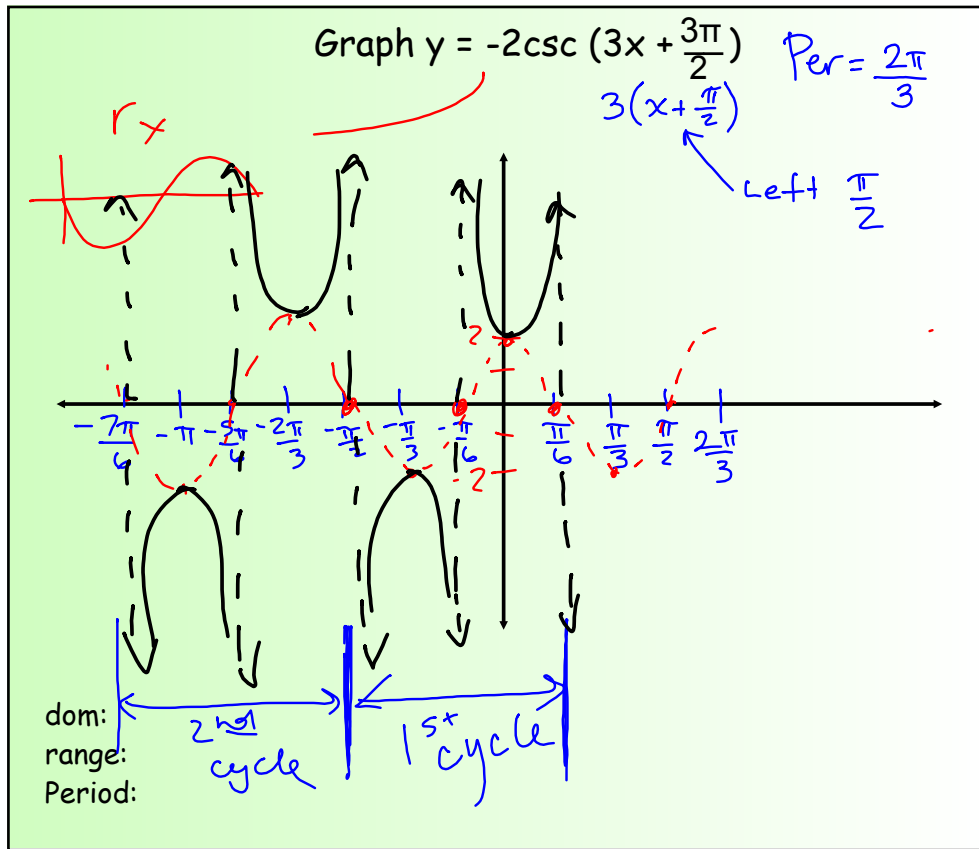


domain?

range?

• period?





HW: PC book, p. 363 boxed

Graph by hand, check it with your grapher.

Tangent worksheet with HW
attached due turned in on
Monday.